

**FIG. 1**

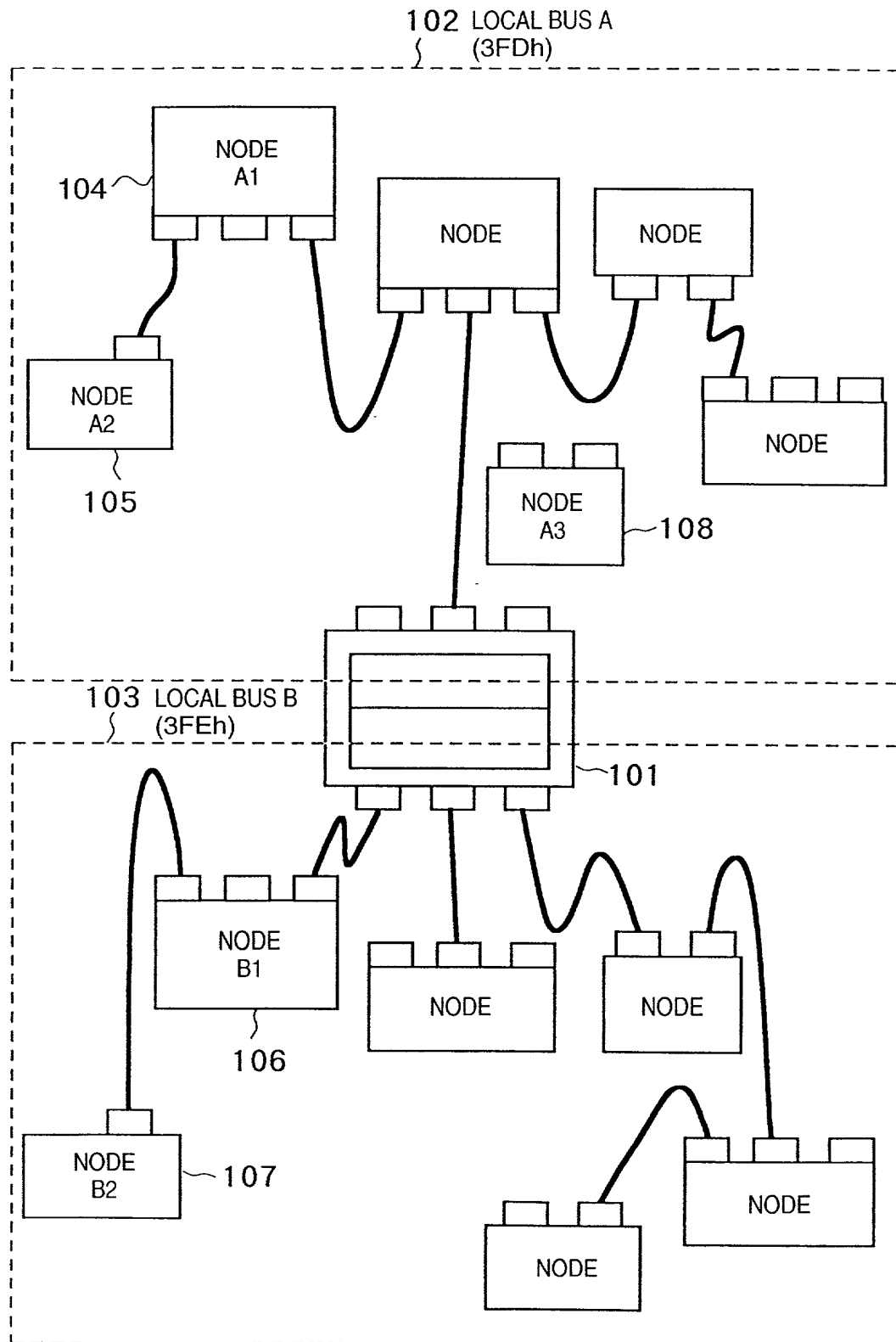


FIG. 2

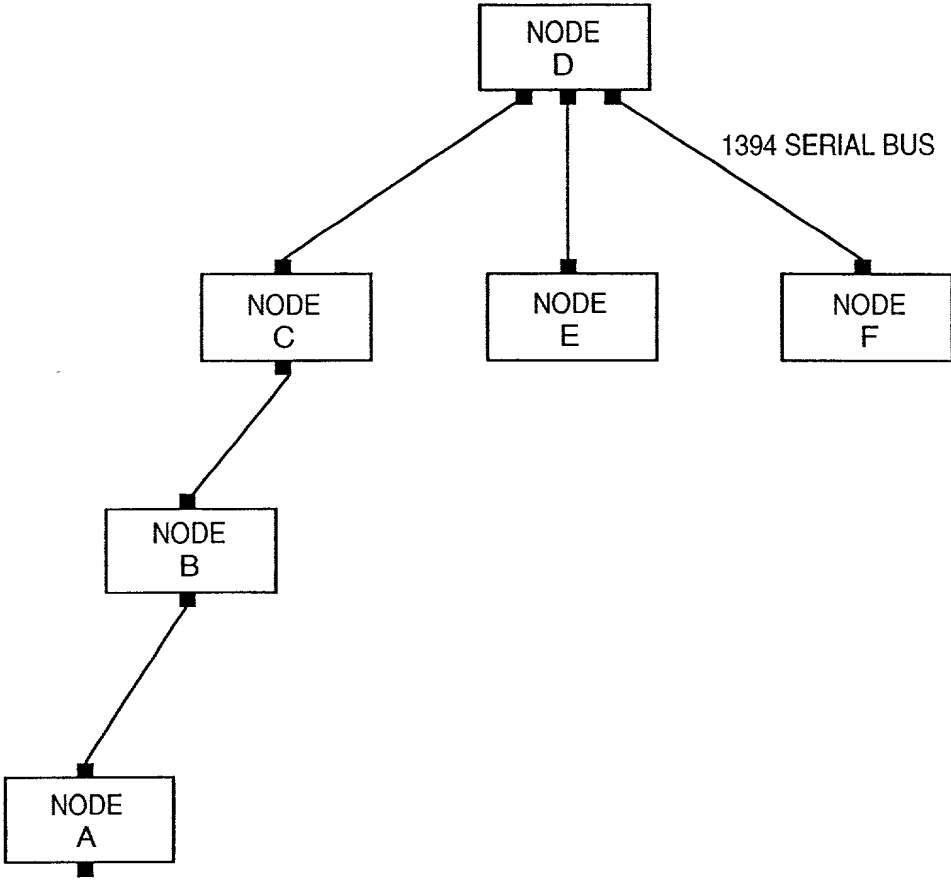


FIG. 3

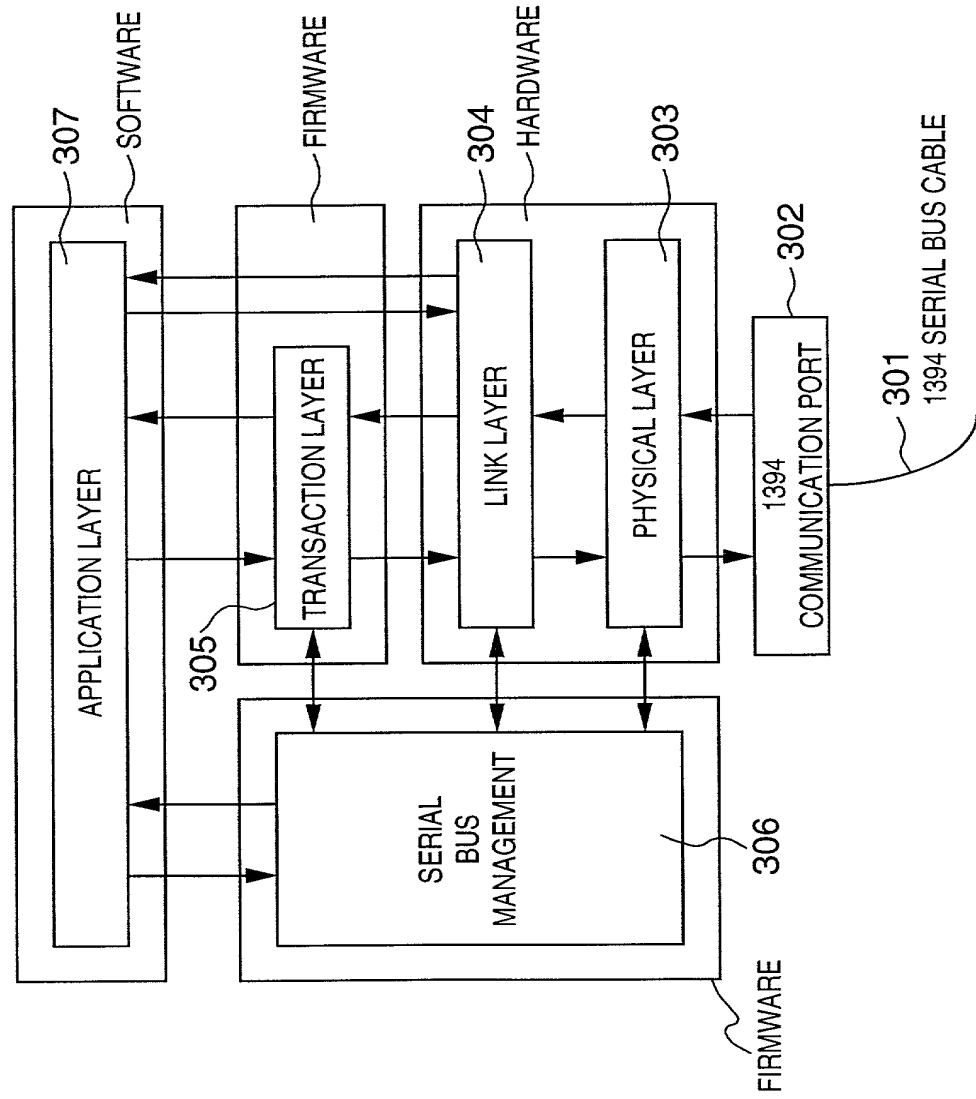


FIG. 4

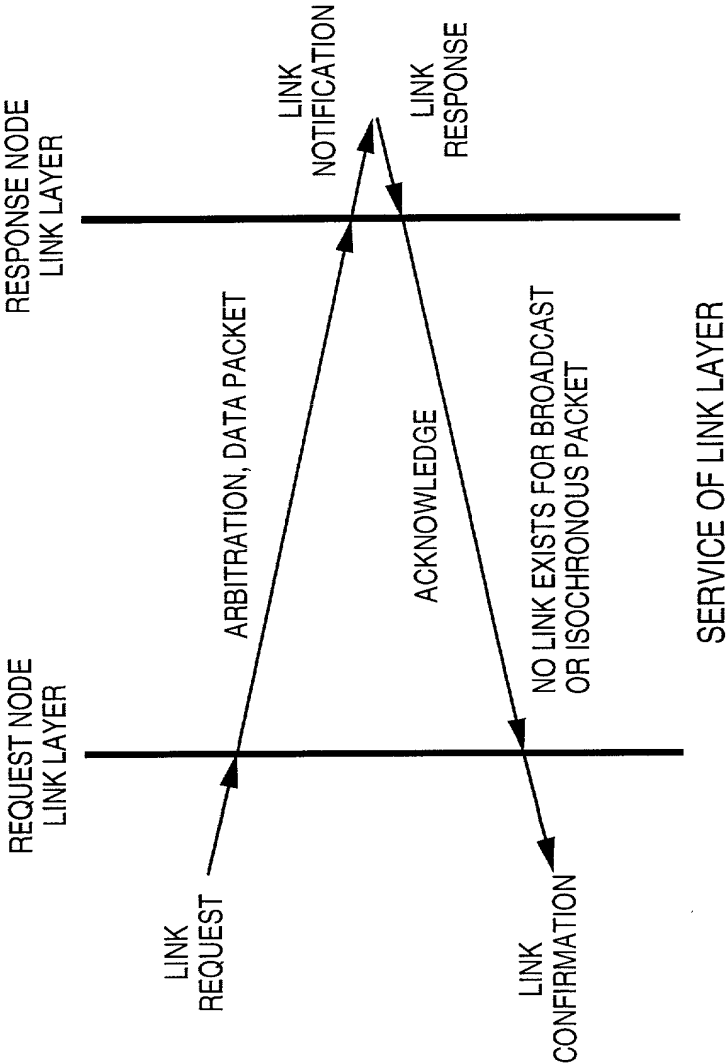


FIG. 5

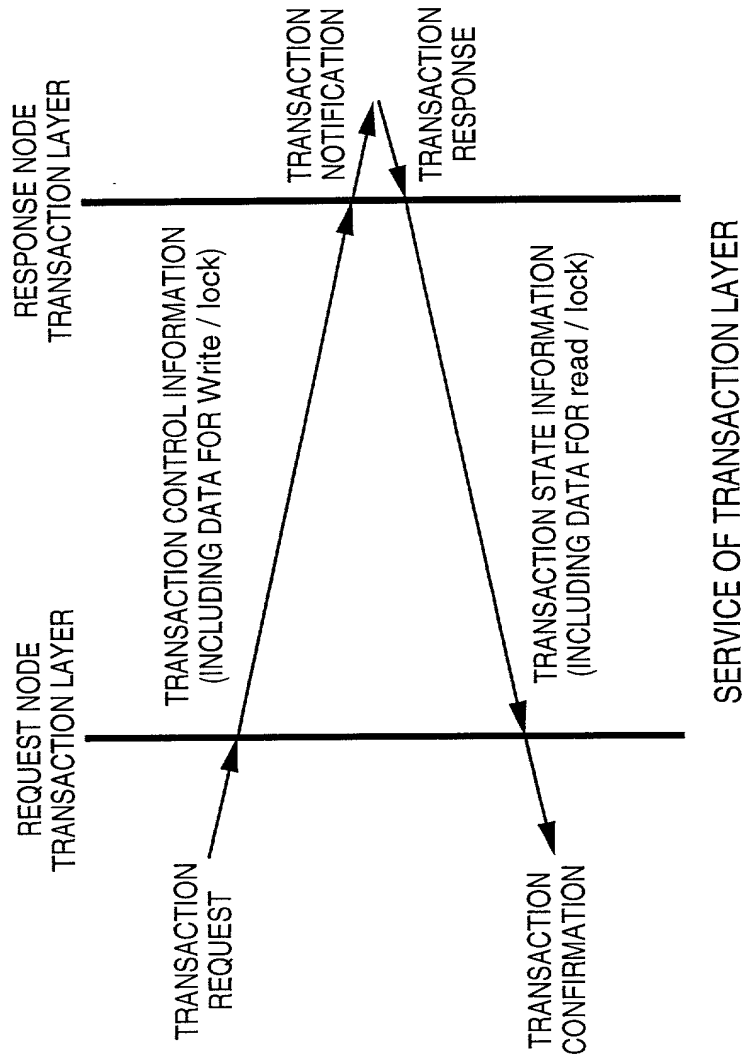
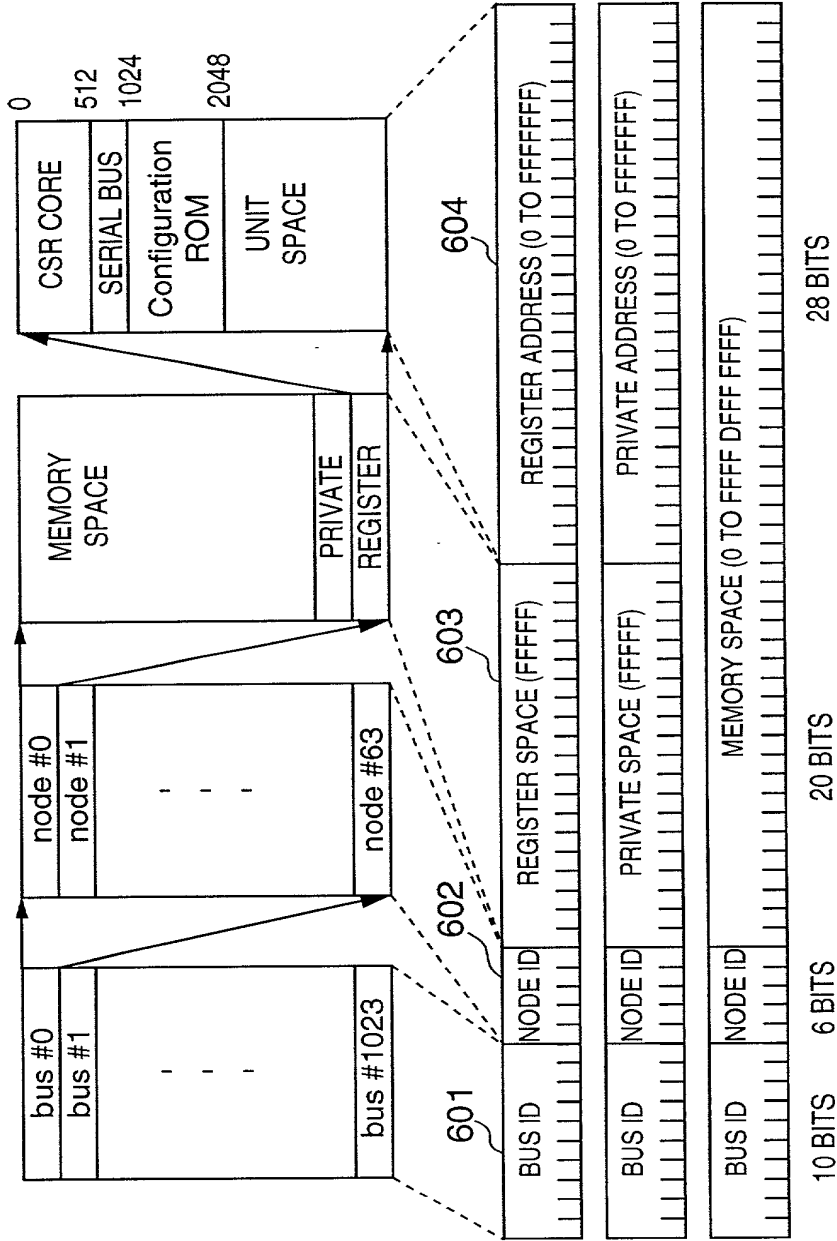


FIG. 6



**FIG. 7**  
CSR CORE REGISTER

OFFSET (HEXADECIMAL)	REGISTER NAME	FUNCTION
000	STATE_CLEAR	INFORMATION ABOUT STATUS AND CONTROL
004	STATE_SET	INFORMATION REPRESENTING WHETHER STATE_CLEAR CAN BE WRITTEN
008	NODE_IDS	BUS ID + NODE ID
00C	RESET_START	RESET BUS BY WRITE IN THIS AREA
010~014	INDIRECT_ADDRESS, INDIRECT_DATA	REGISTER FOR ACCESSING ROM LARGER THAN 1K
018~01C	SPLIT_TIMEOUT	VALUE OF TIMER FOR DETECTING TIME-OUT OF SPLIT TRANSACTION
020~02C	ARGUMENT, TEST_START, TEST_STATUS	DIAGNOSTIC REGISTER
030~04C	UNITS_BASE, UNITS_BOUND, MEMORY_BASE, MEMORY_BOUND	UNUSED IN IEEE1394
050~054	INTERRUPT_TARGET, INTERRUPT_MASK	INTERRUPT NOTIFICATION REGISTER
058~07C	CLOCK_VALUE, CLOCK_TICK_PERIOD, CLOCK_STROBE_ARRIVED, CLOCK_INFO	UNUSED IN IEEE1394
080~0FC	MESSAGE_REQUEST, MESSAGE_RESPONSE	MESSAGE NOTIFICATION REGISTER
100~17C		RESERVED
180~1FC	ERROR_LOG_BUFFER	RESERVED FOR IEEE1394

**FIG. 8**  
SERIAL BUS REGISTER

OFFSET (HEXADECIMAL)	REGISTER NAME	FUNCTION
200	CYCLE_TIME	COUNTER FOR ISOSYNCHRONOUS TRANSFER
204	BUS_TIME	REGISTER FOR SYNCHRONIZING TIME
208	POWER_FAIL_IMMINENT	REGISTER CONCERNING POWER SUPPLY
20C	POWER_SOURCE	
210	BUSY_TIMEOUT	CONTROL RETRY OF TRANSACTION LAYER
214~218		RESERVED
21C	BUS_MANAGER_ID	NODE ID OF BUS MANAGER
220	BANDWIDTH_AVAILABLE	MANAGE ISOSYNCHRONOUS TRANSFER BANDWIDTH
224~228	CHANNELS_AVAILABLE	MANAGE ISOSYNCHRONOUS TRANSFER CHANNEL NUMBER
22C	MAINT_CONTROL	DIAGNOSTIC REGISTER
230	MAINT_UTILITY	
234~3FC		RESERVED



**FIG. 9**

## CONFIGURATION ROM OF MINIMUM FORMAT

8 bits	24 bits
01	VENDOR ID

**FIG. 10**

Bus Info Block Length	ROM Length	CRC	
Bus Info Block			1001
Root Directory			1002
Node dependent info directory			1003
Unit directories			1004
Root & unit leaves			1005
Vendor dependent information			1006

FIG. 11

SERIAL BUS DEVICE REGISTER

OFFSET (HEXADECIMAL)	REGISTER NAME	FUNCTION
800~FFC		RESERVED
1000~13FC	TOPOLOGY_MAP	INFORMATION ABOUT CONFIGURATION OF SERIAL BUS
1400~1FFC		RESERVED
2000~2FFC	SPEED_MAP	INFORMATION ABOUT TRANSFER SPEED OF SERIAL BUS
3000~FFFC		RESERVED

## FIG. 12

SECTIONAL VIEW OF CABLE

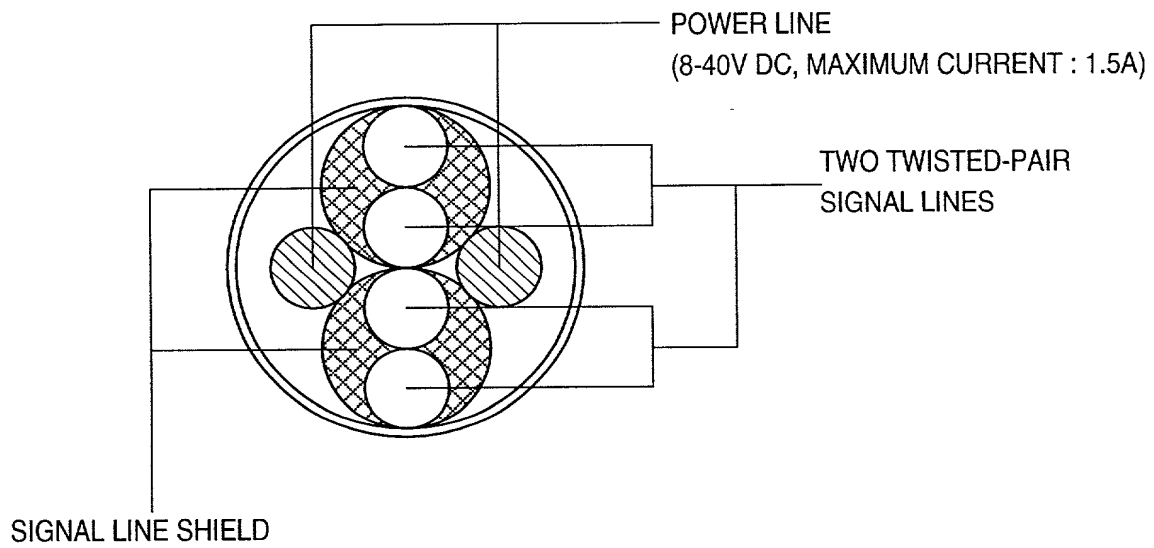
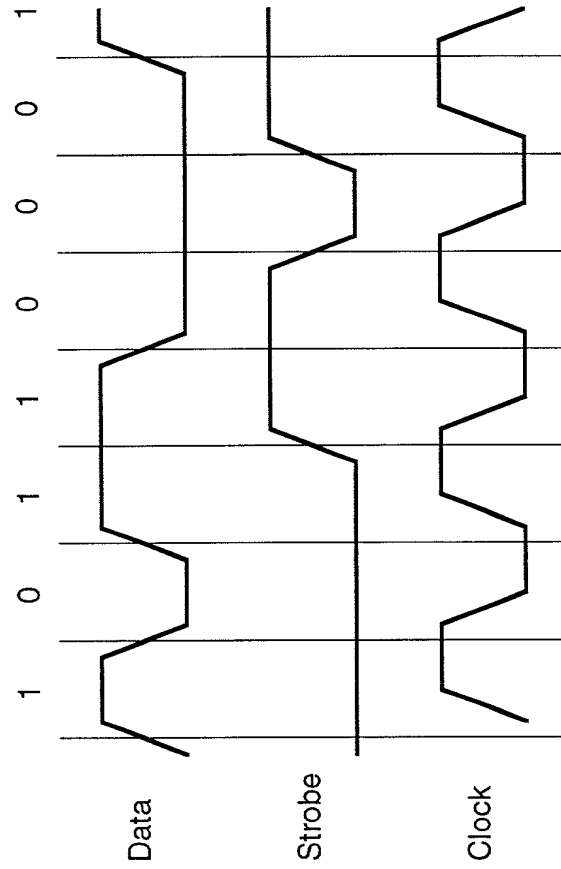
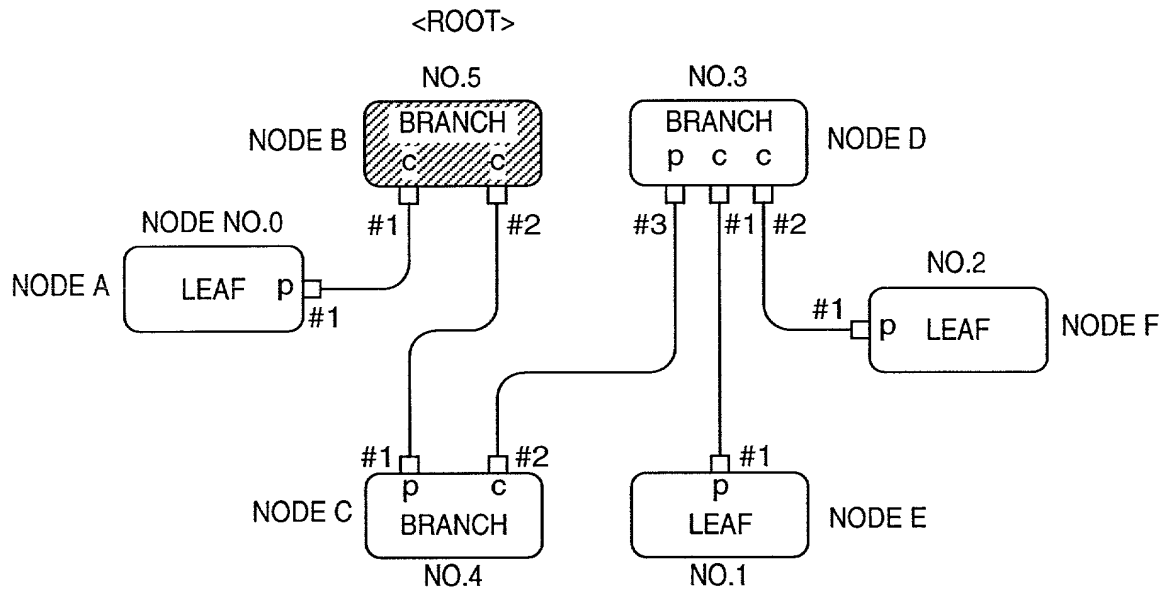


FIG. 13

FIG. 13

EXCLUSIVE OR SIGNAL OF Data AND Strobe

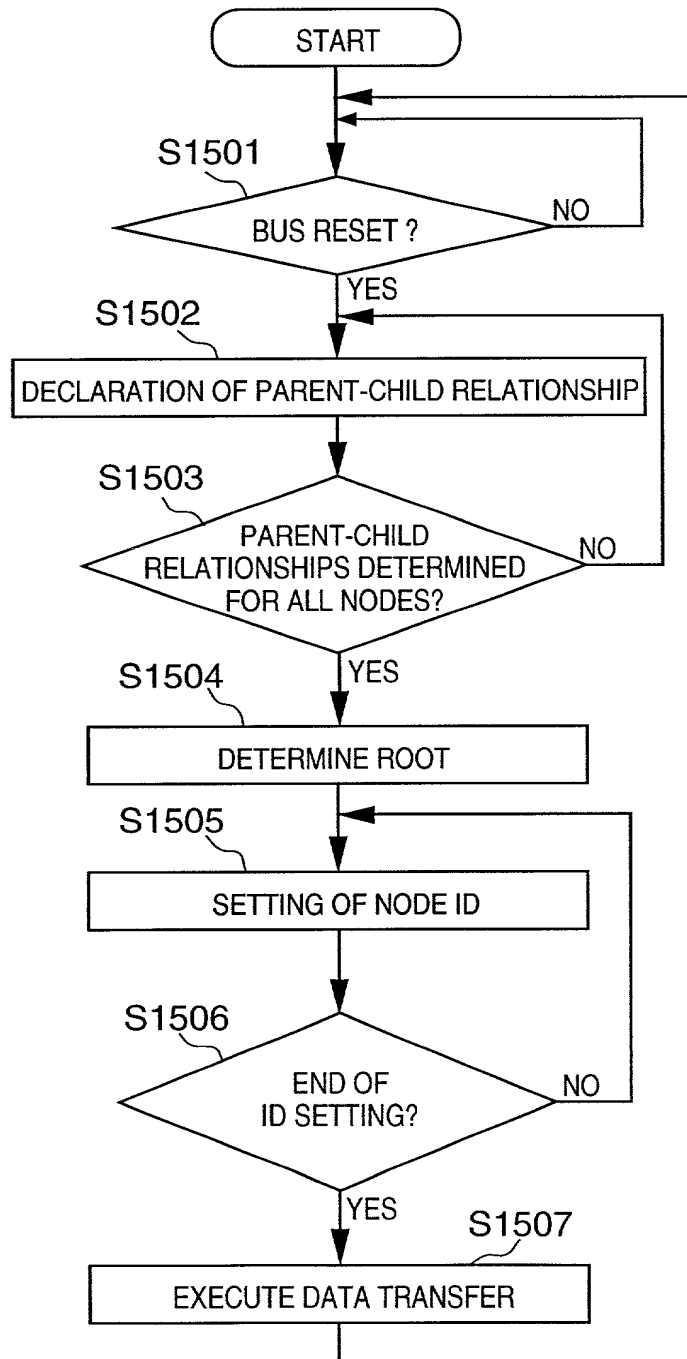


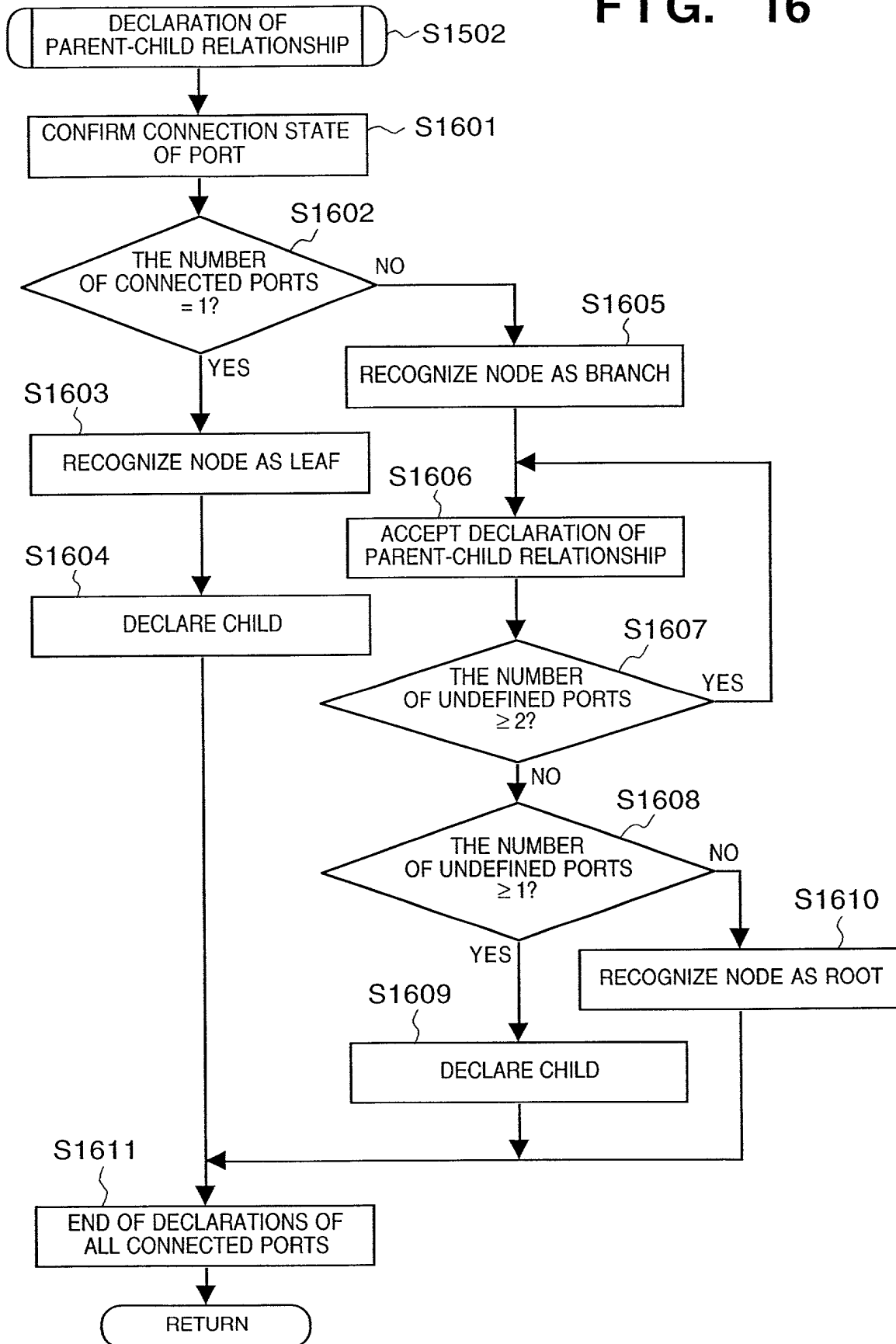
**FIG. 14**

□ : PORT

p : PORT CONNECTED TO PARENT NODE

c : PORT CONNECTED TO CHILD NODE

**FIG. 15**



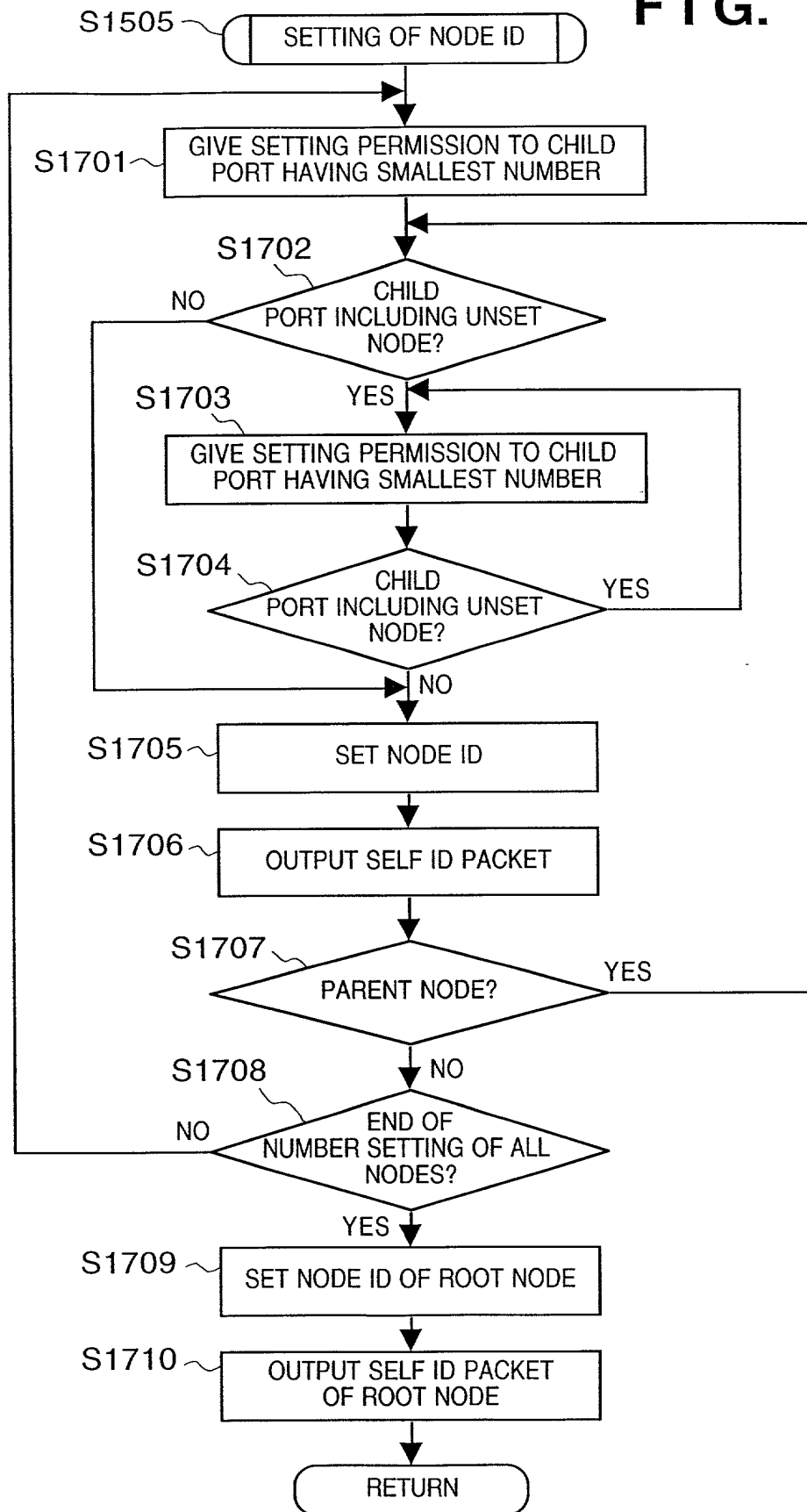
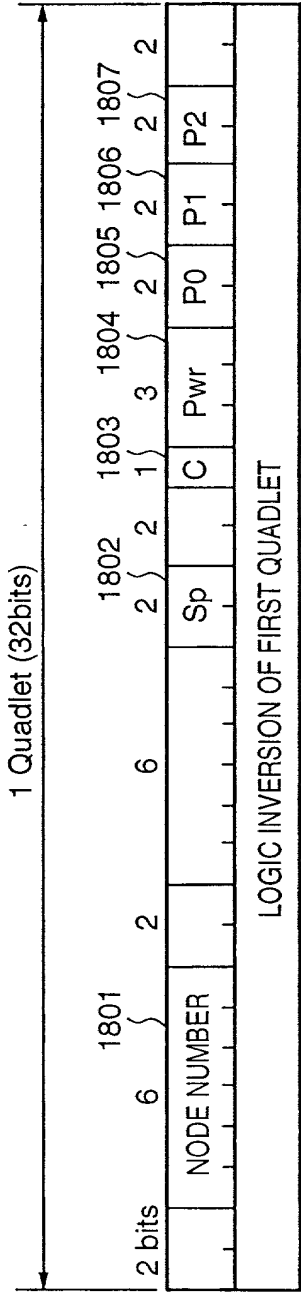


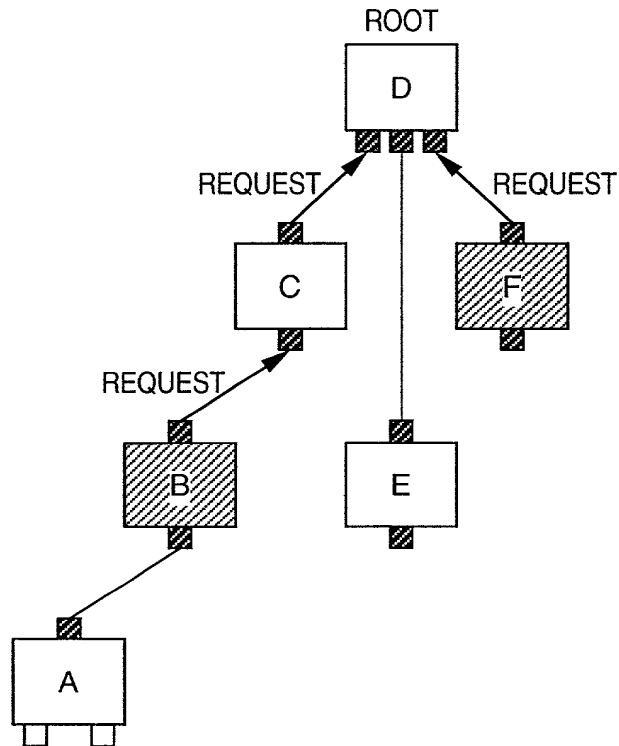


FIG. 18



**FIG. 19A**

REQUESTS FOR BUS ACCESS

**FIG. 19B**

PERMISSION FOR BUS ACCESS

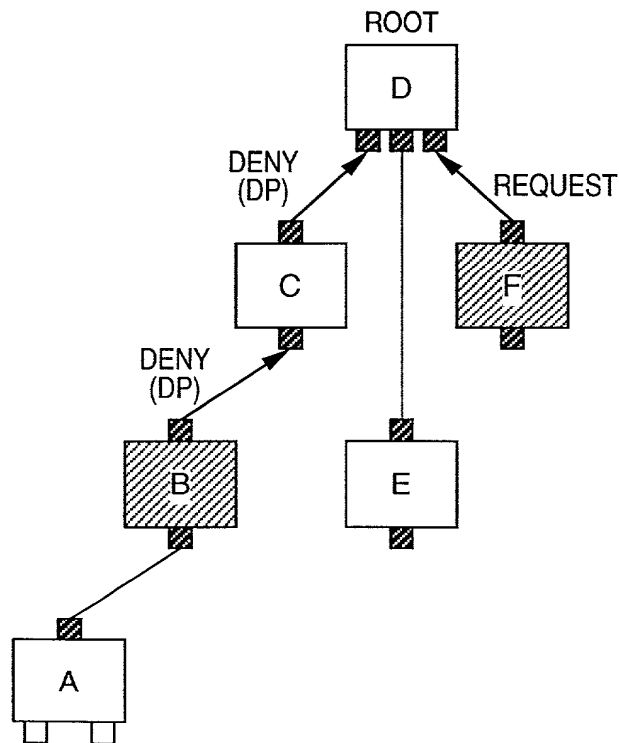


FIG. 20

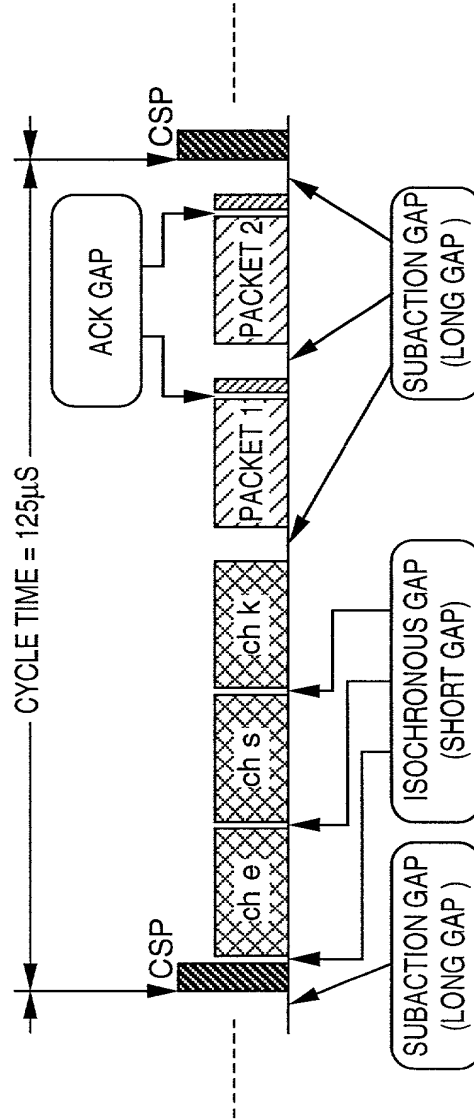


FIG. 21 is a block diagram of a packet of isochronous data. The packet is divided into four main sections: a header section (2101), a data section (2102), a padding section (2103), and a CRC section (2104). The header section (2101) contains fields for data\_length (2105), tag (2106), channel (2107), tcode (2108), and sy (2109). The data section (2102) contains a data\_field (2103) and a pad\_field (2104). The padding section (2103) contains a data\_CRC (2104). The CRC section (2104) contains a data\_CRC (2104).

**FIG. 21**

PACKET OF ISOCHRONOUS DATA

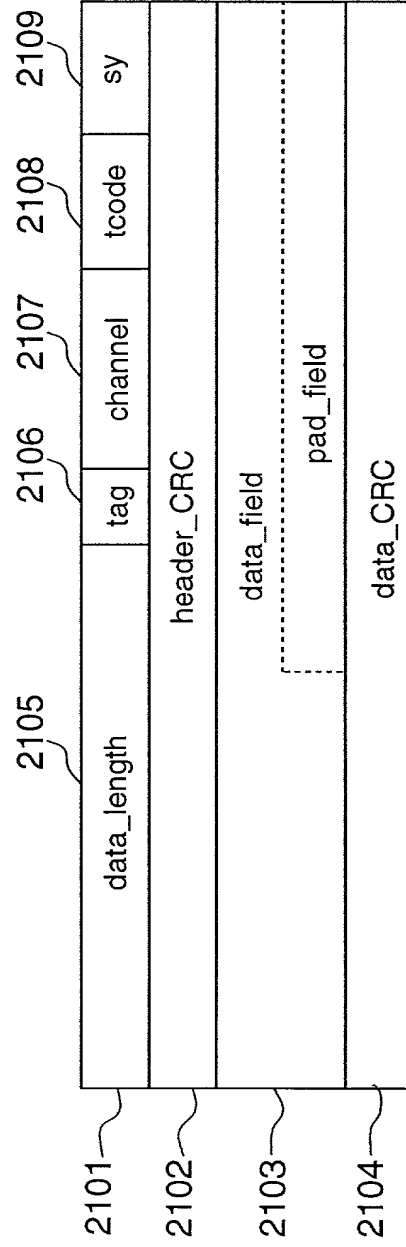
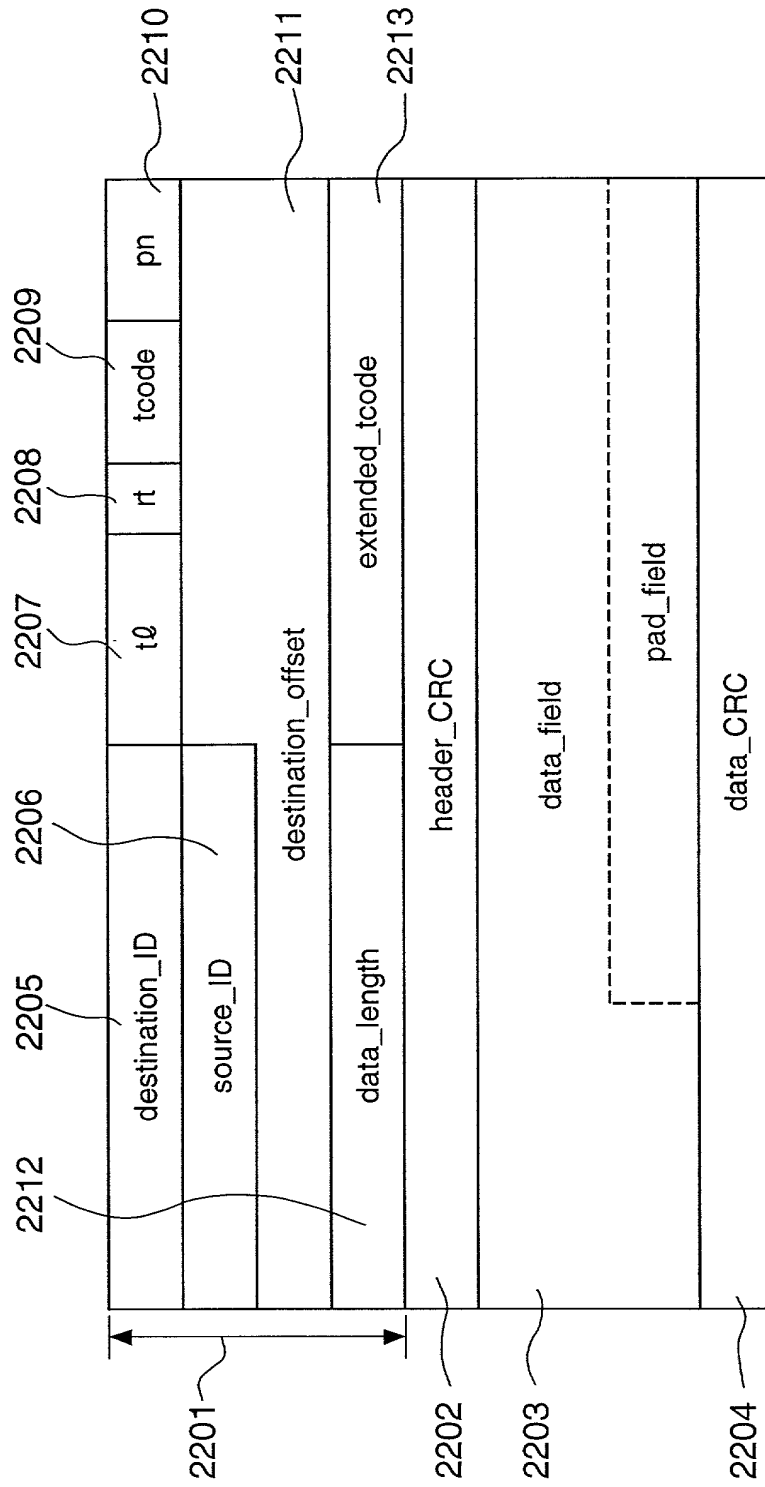
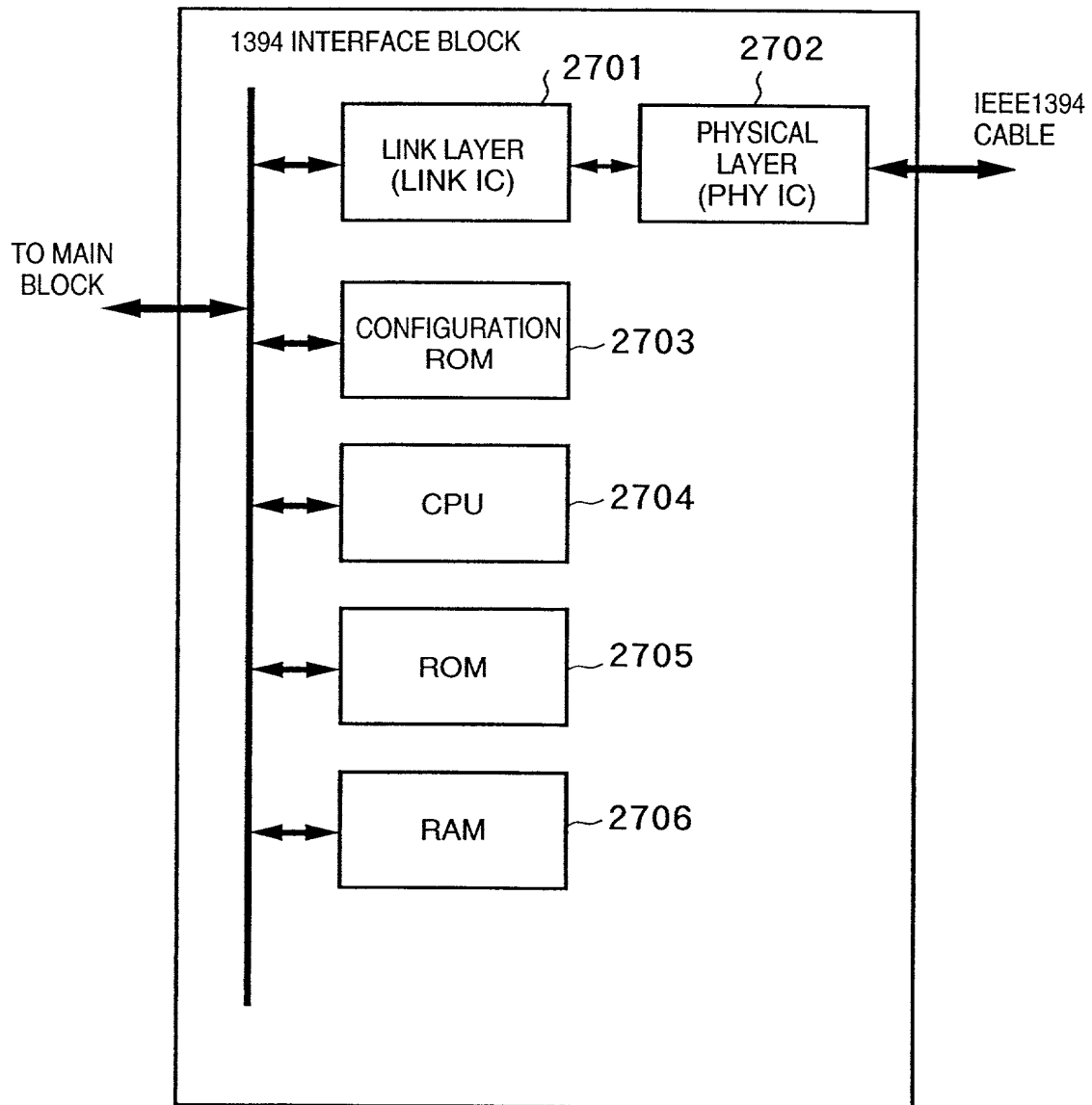


FIG. 22

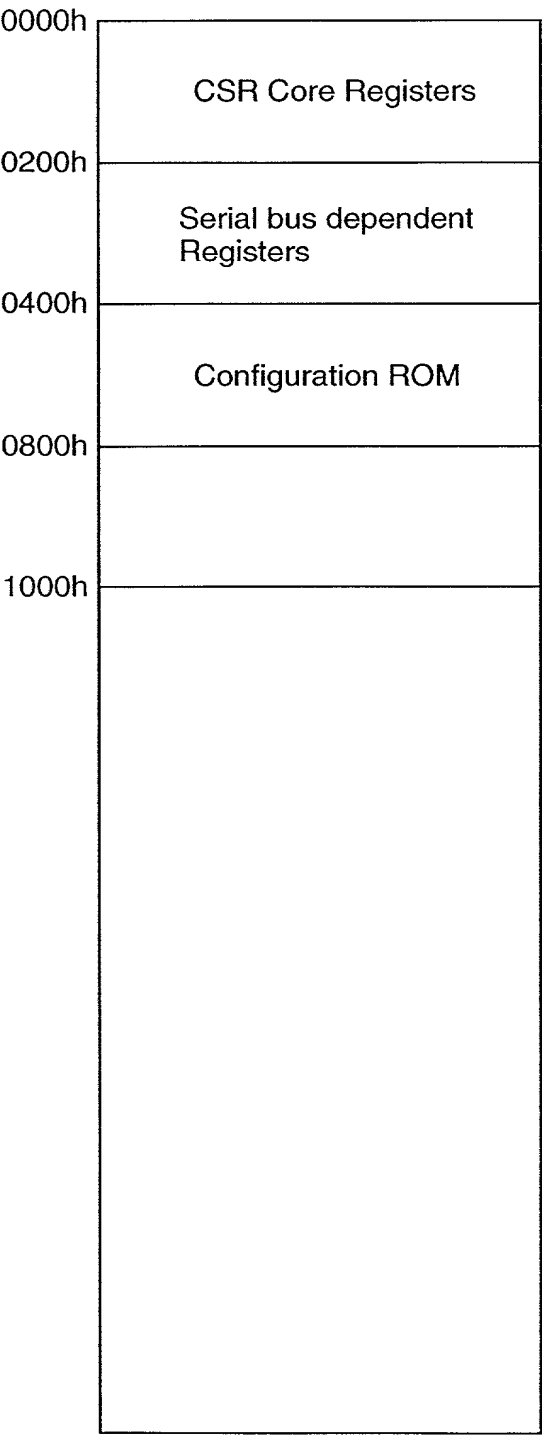


**FIG. 23**

**FIG. 24**

Bus Info Block Length		ROM Length	CRC
Bus Info Block			
Root Directory			
Node dependent info directory			
Unit directories			
INSTANCE DIRECTORY	Instance directory Length		CRC_16
	Key	keyword leaf offset entry	
	Key	Unit Directory offset	
	Key	Feature Directory offset	
KEYWORD LEAF	keywordleaf Length		CRC_16
	Keywords		
FEATURE DIRECTORY	Feature directory Length		CRC_16
Vendor dependent information			

FIG. 25





**FIG. 26**  
SERIAL BUS REGISTER

OFFSET (HEXADECIMAL)	REGISTER NAME	FUNCTION
200	CYCLE_TIME	COUNTER FOR ISOCHRONOUS TRANSFER
204	BUS_TIME	REGISTER FOR SYNCHRONIZING TIME
208	POWER_FAIL_IMMINENT	REGISTER CONCERNING POWER SUPPLY
20C	POWER_SOURCE	
210	BUSY_TIMEOUT	CONTROL RETRY OF TRANSACTION LAYER
214~218		RESERVED
21C	BUS_MANAGER_ID	NODE TRANSFER OF BUS MANAGER
220	BANDWIDTH_AVAILABLE	MANAGE ISOCHRONOUS TRANSFER BANDWIDTH
224~228	CHANNELS_AVAILABLE	MANAGE ISOCHRONOUS TRANSFER CHANNEL NUMBER
22C	MAINT_CONTROL	DIAGNOSTIC REGISTER
230	MAINT_UTILITY	
234~3FC		RESERVED
240	REMOTE_BUS_RESET	BUS RESET NOTIFICATION ON REMOTE BUS

FIG. 27

FIG. 27

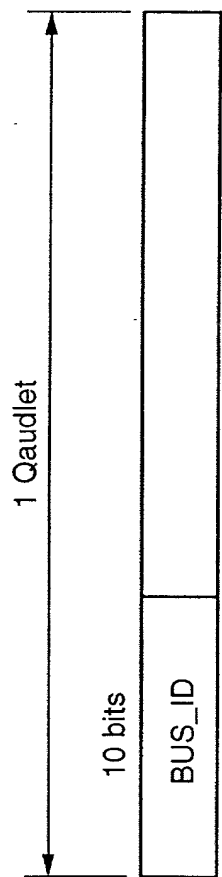


FIG. 28

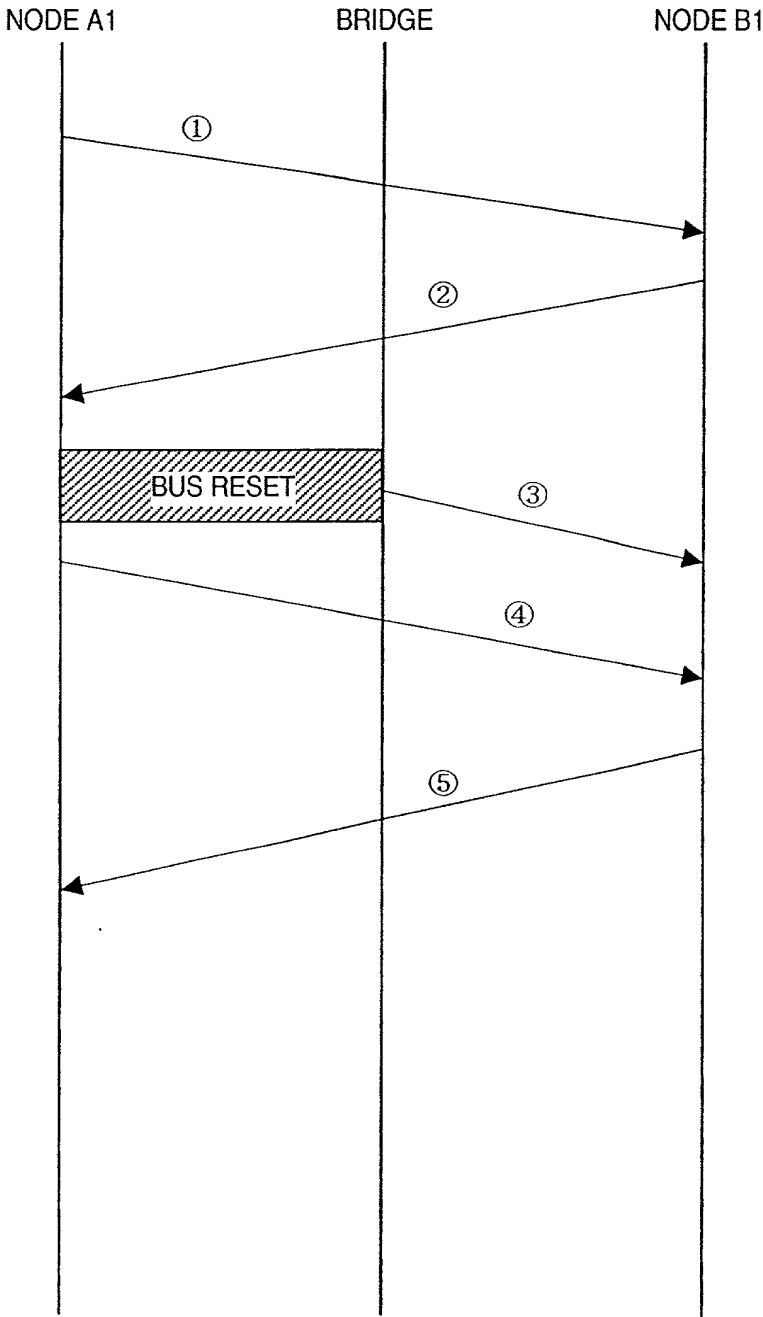


FIG. 28

**FIG. 29**

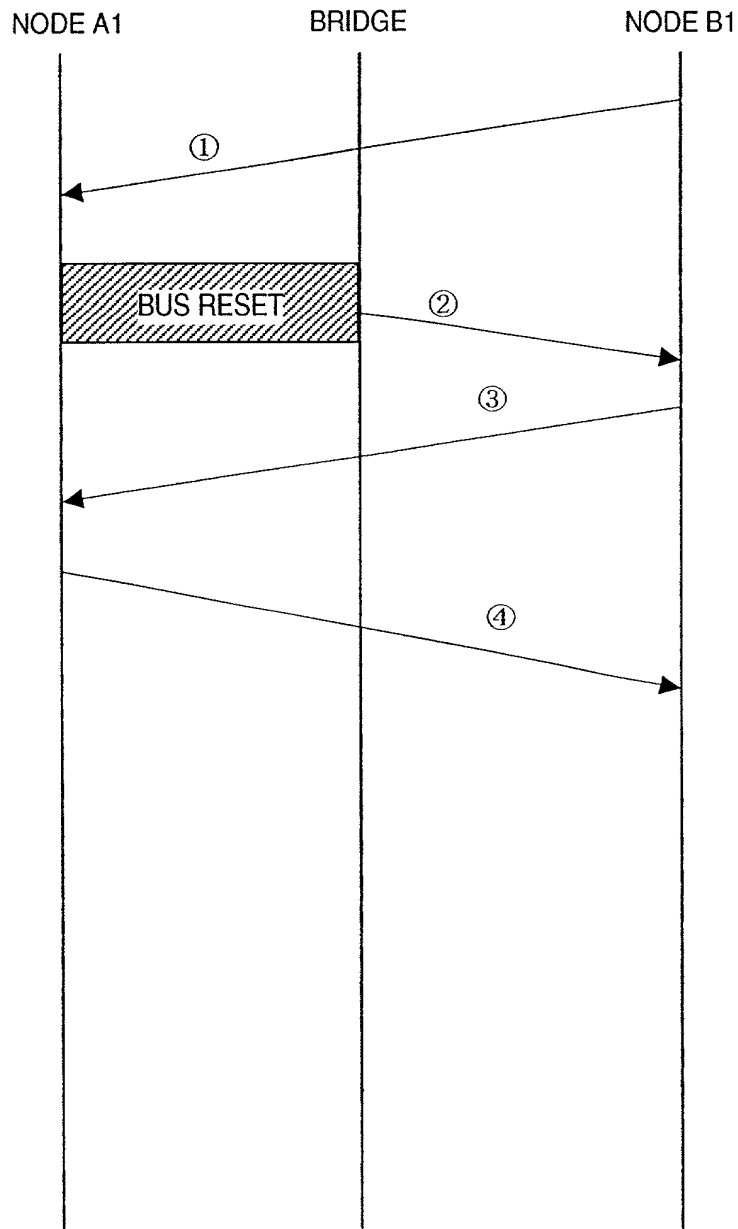


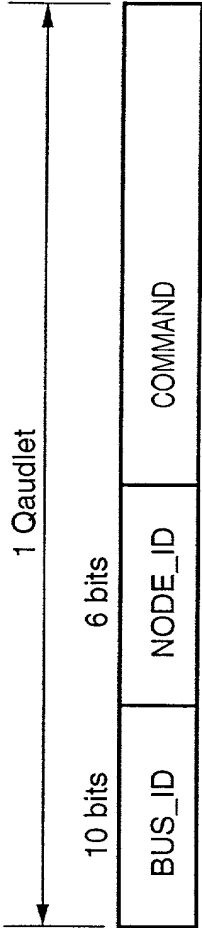
FIG. 29

SERIAL BUS REGISTER **FIG. 30**

OFFSET (HEXADECIMAL)	REGISTER NAME	FUNCTION
200	CYCLE_TIME	COUNTER FOR ISOCRONOUS TRANSFER
204	BUS_TIME	REGISTER FOR SYNCHRONIZING TIME
208	POWER_FAIL_IMMINENT	REGISTER CONCERNING POWER SUPPLY
20C	POWER_SOURCE	
210	BUSY_TIMEOUT	CONTROL RETRY OF TRANSACTION LAYER
214~218		RESERVED
21C	BUS_MANAGER_ID	NODE ID OF BUS MANAGER
220	BANDWIDTH_AVAILABLE	MANAGE ISOCRONOUS TRANSFER BANDWIDTH
224~228	CHANNELS_AVAILABLE	MANAGE ISOCRONOUS TRANSFER CHANNEL NUMBER
22C	MAINT_CONTROL	DIAGNOSTIC REGISTER
230	MAINT_UTILITY	
234~3FC		RESERVED
240	REMOTE_BUS_RESET	BUS RESET NOTIFICATION ON REMOTE BUS
244	NOTIFY_BUS_RESET	RESERVATION OF BUS RESET NOTIFICATION ON REMOTE BUS

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FIG. 31



**FIG. 32**

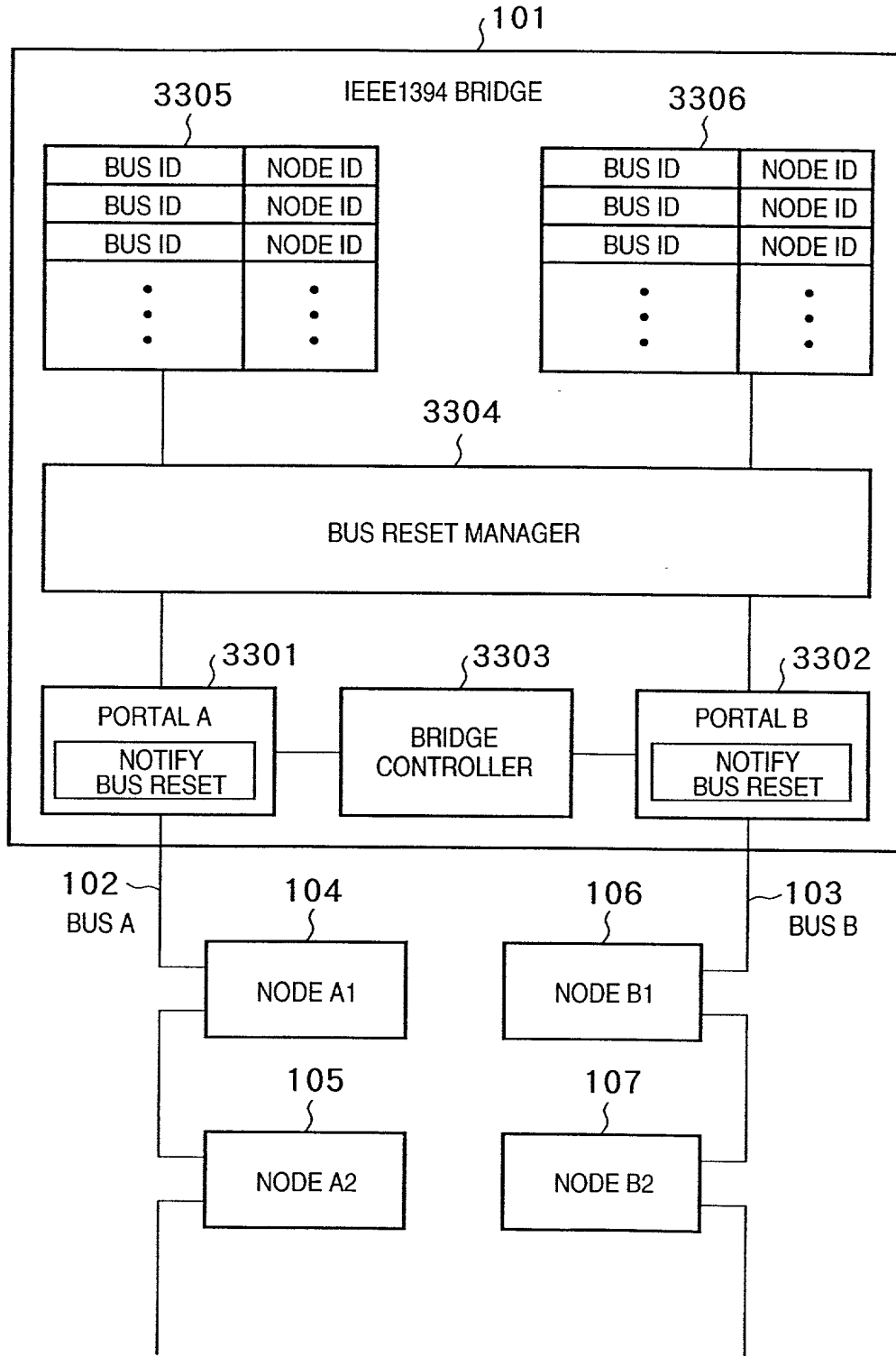
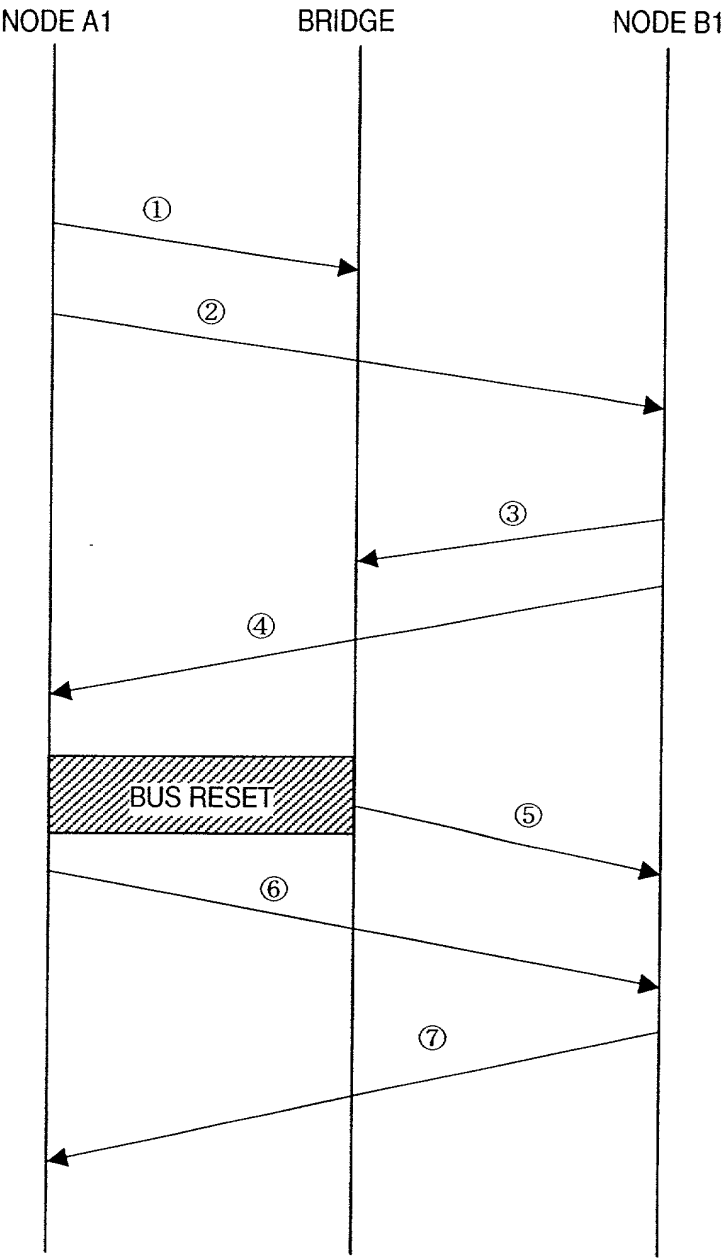
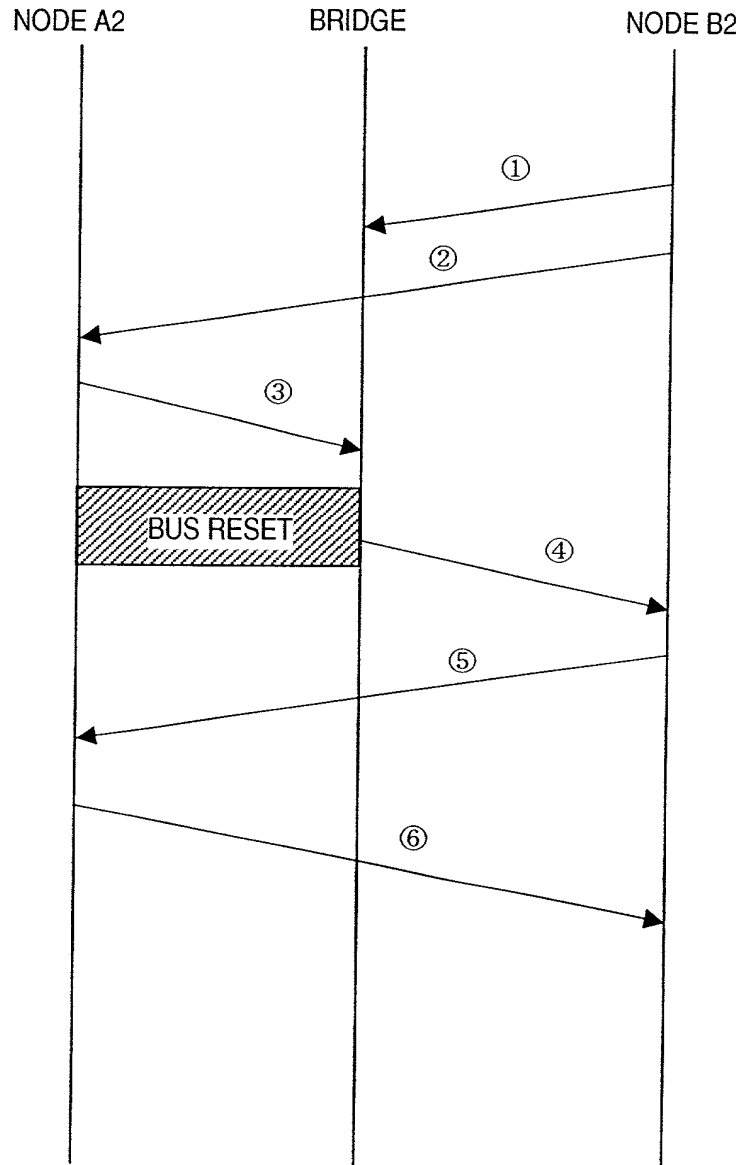


FIG. 33





**FIG. 34**

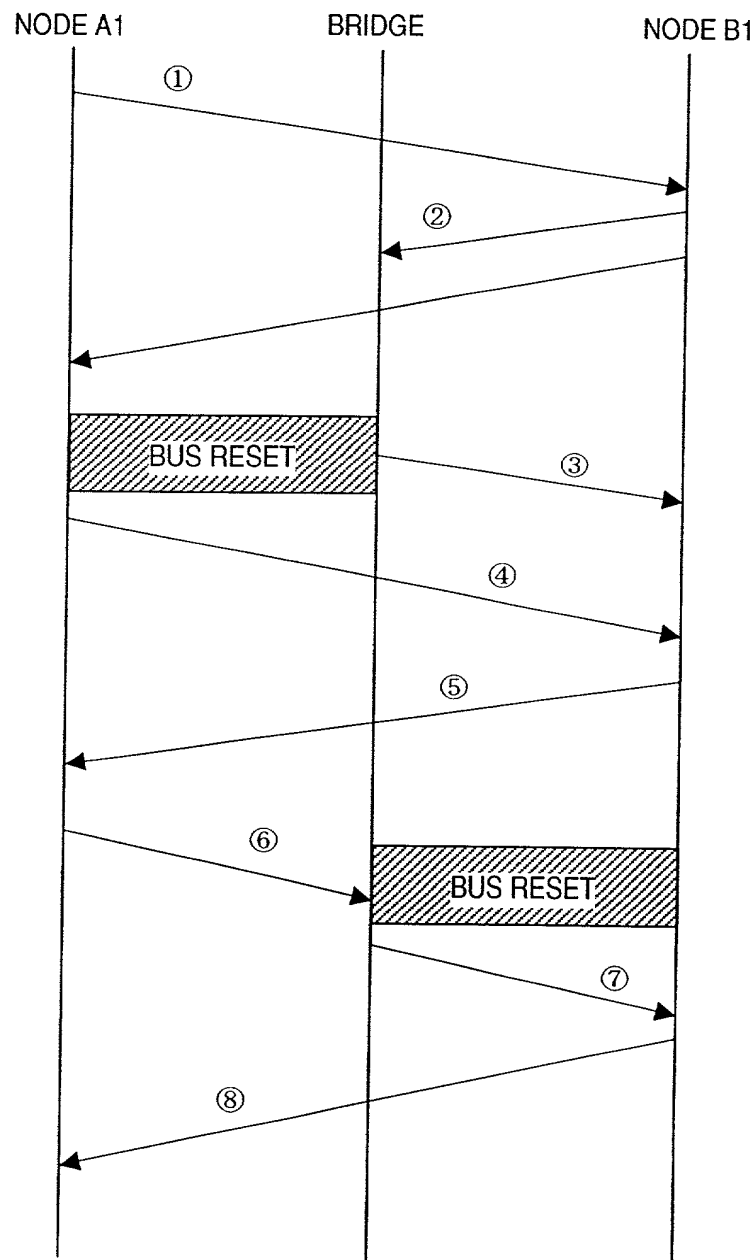
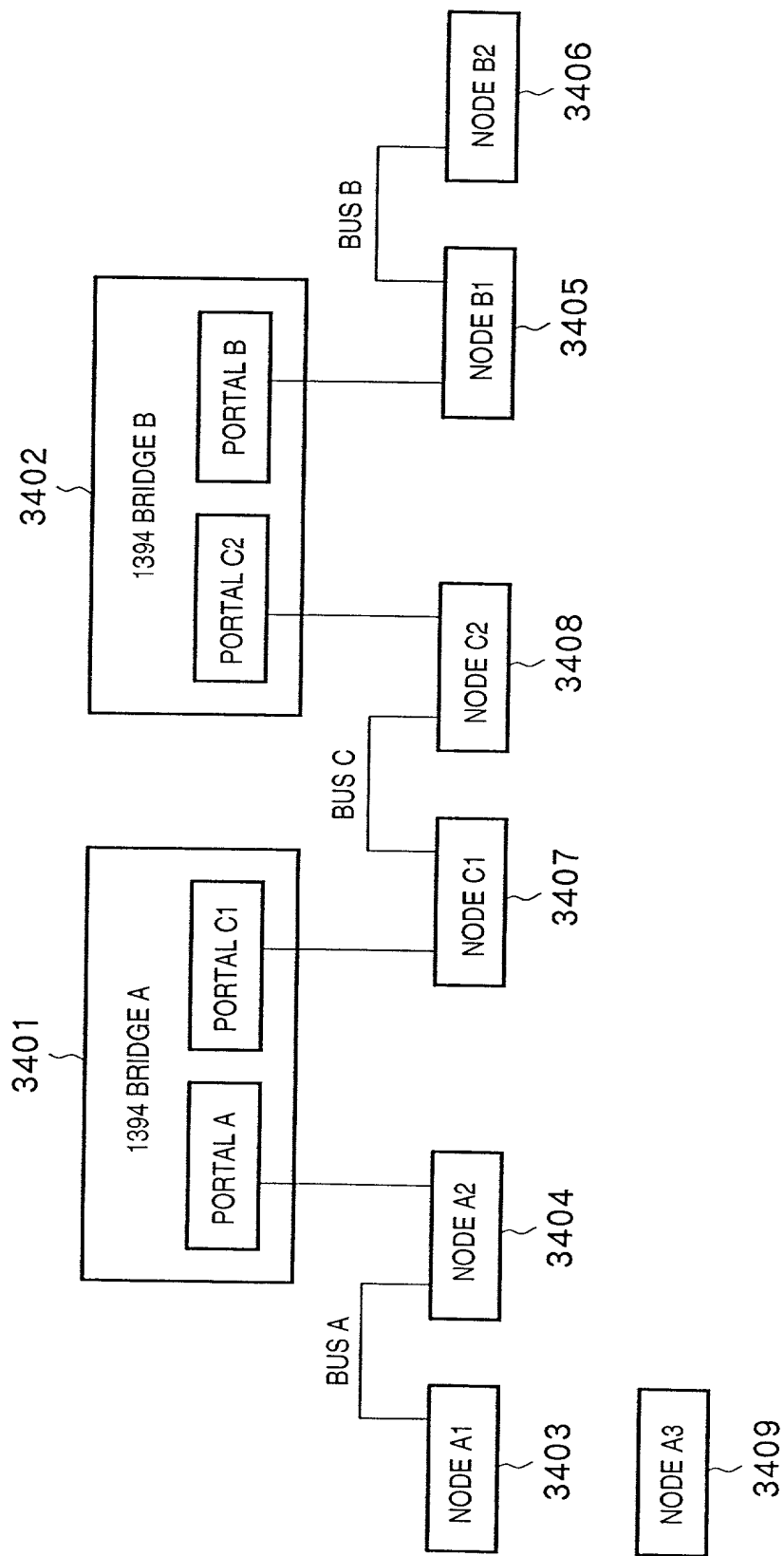
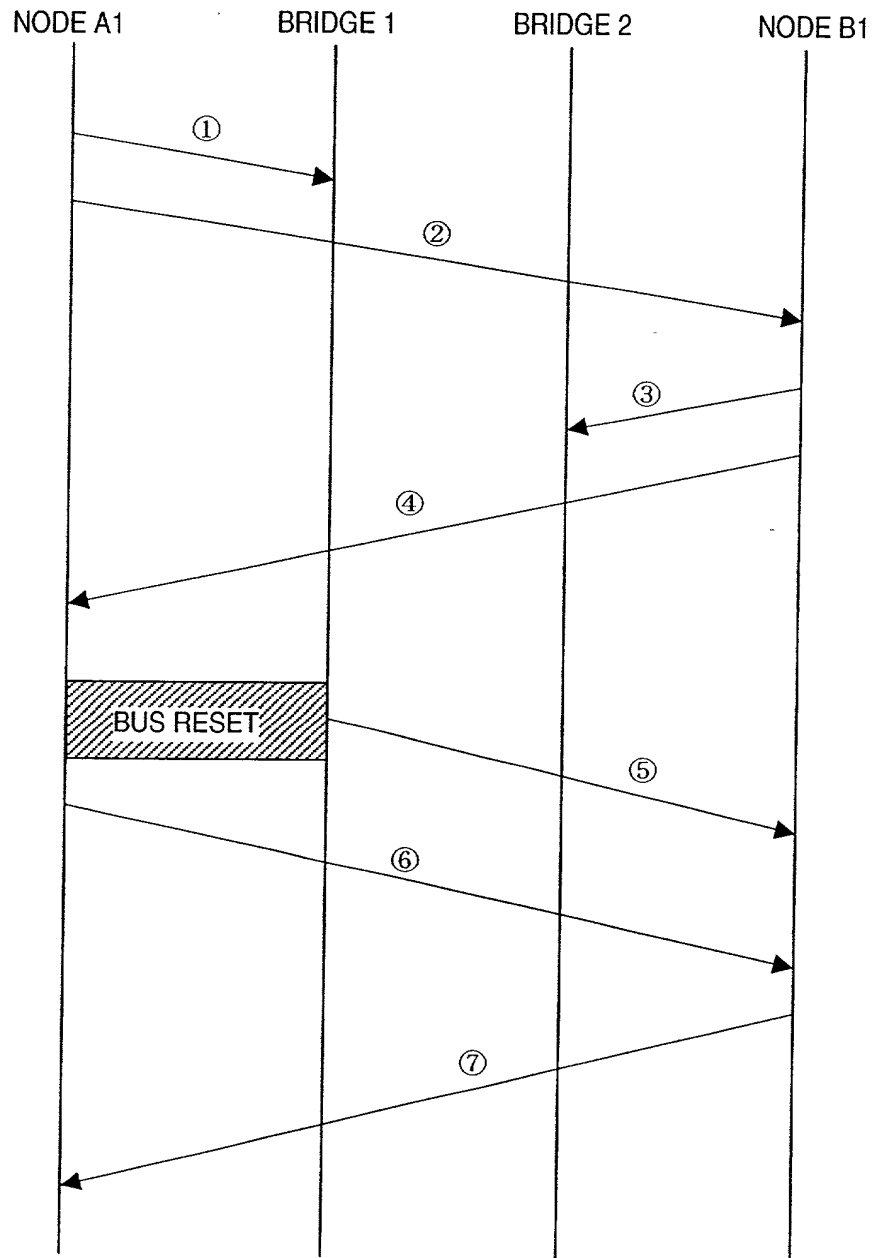
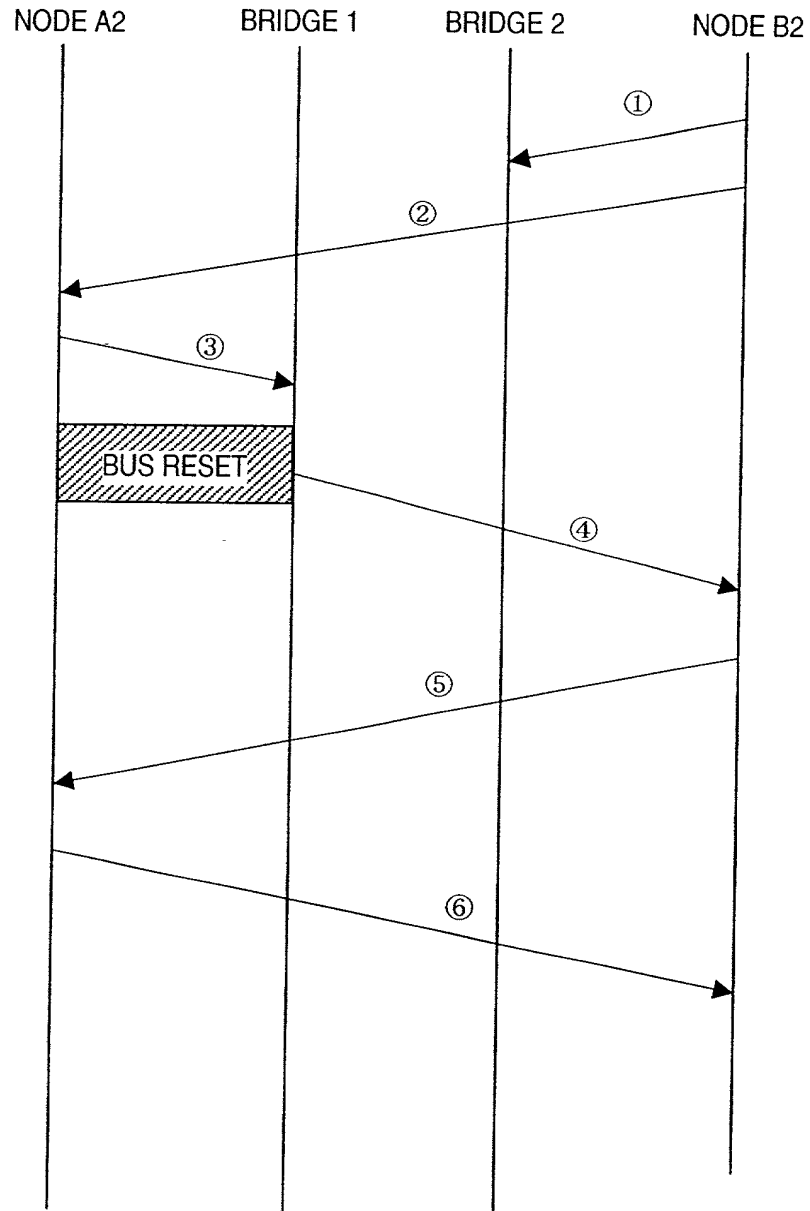
**FIG. 35**

FIG. 36



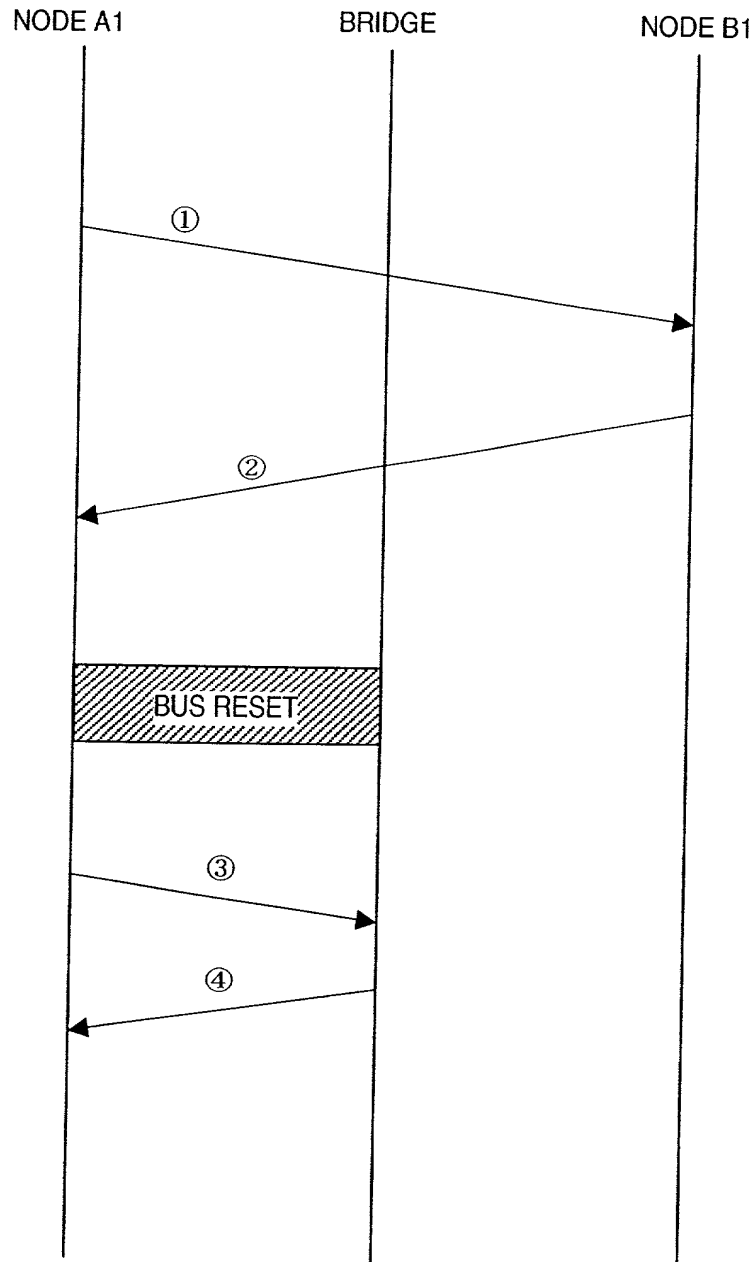
**FIG. 37**

**FIG. 38**

**FIG. 39**  
SERIAL BUS REGISTER

OFFSET (HEXADECIMAL)	REGISTER NAME	FUNCTION
200	CYCLE_TIME	COUNTER FOR ISOCRONOUS TRANSFER
204	BUS_TIME	REGISTER FOR SYNCHRONIZING TIME
208	POWER_FAIL_IMMINENT	REGISTER CONCERNING POWER SUPPLY
20C	POWER_SOURCE	
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214~218		RESERVED
21C	BUS_MANAGER_ID	NODE ID OF BUS MANAGER
220	BANDWIDTH_AVAILABLE	MANAGE ISOCRONOUS TRANSFER BANDWIDTH
224~228	CHANNELS_AVAILABLE	MANAGE ISOCRONOUS TRANSFER CHANNEL NUMBER
22C	MAINT_CONTROL	DIAGNOSTIC REGISTER
230	MAINT_UTILITY	
234~23C		RESERVED

FIG. 40



**FIG. 41**